## REMARKS

Claims 51-72 are pending in the above-identified application. Claims 51-72 stand rejected under 35 U.S.C. §112. With this Response, claims 51, 53, 54, 56, 60, 62, 64, 65, 67 and 71 have been amended; claims 55, 57, 59, 61, 66, 68, 70, and 72 have been canceled and claims 73-76 have been added. Applicant requests reconsideration of the claims in light of the remarks and amendments made in this Response.

### I. Applicants' Invention

The present invention relates to a method for use in deriving chemical structural information. The method includes the steps of dividing a chemical name into a series of fragments, associating the fragments with at least one data object known as a nomToken, and consolidating the list of nomTokens into a smaller list, ultimately resulting in one nomToken, whose connection table corresponds to the structure of the chemical name.

### II. Claim Amendments

Claims 51, 53, 54, 56, 60, 62, 64, 65, 67 and 71 are amended and claim 73-76 have been added. No new matter has been added with these amendments. Support for the claims can be found throughout the application, in particular at the following locations: page 5, lines 13-15; page 13, lines 14-16; page 15, lines 4-5; page 15, lines 10-14; page 17, lines 11-13; page 19, line 19 – page 20, line 3; and page 21, line 4 – page 22, line 4.

### III. Rejection of Claims Under 35 U.S.C. 112 – New Matter

Claims 51-72 stand rejected under 35 U.S.C. 112 as allegedly containing new matter. The Office Action states that the claimed method steps do not correspond to the method disclosed in the specification. Applicant respectfully disagrees and refers to the arguments made in the last Response, dated January 11, 2005. However, in an effort to expedite prosecution, Applicant has amended the claims to further specify the claims. In particular, Applicant has amended claims 51, 54, 62 and 65 to include a preprocessing step. Applicant has also amended claims 51, 54, 62 and 65 to indicate that meaningful text strings are associated with nomTokens. Finally, claims 51 and 62 have been

amended to add the limitation that the Type and Subtype are taken from a ranked list. Claims 73-76 have been added to require that that chemical name is divided into the smallest number of meaningful fragments of a maximum length.

The Office Action further states that the step of "consolidating the list of nomTokens into a smaller list" in claims 51 and 62 does not reflect concepts contemplated in the specification at pages 18 and 20. Claims 51 and 62 have been amended to reflect that the consolidation step includes "consolidating two or more nomTokens into a single replacement nomToken" (the concept of p. 20). Applicant submits that with these amendments the claims are fully supported by the specification.

Regarding the description at page 18, Applicant submits that it is not necessary to import the limitations of page 18 into the steps described at page 20. The concatenation step described at page 18 is distinct from the consolidation step described at page 20 onwards. The Office Action correctly notes that the description at page 18 refers to a step where the list of nomTokens is examined sequentially to determine whether adjacent nomToken names can be concatenated. However, this step refers to a specific implementation of the fragmentation step of the invention. It does not refer to a part of the consolidation step. In this step, common chemical terms (such as "mg/mL") are fragmented because of punctuation that occurs in the name. The specification states that this occurs in a small number of instances. This step is one of the final steps of the fragmentation process, corresponding to step (d) of claim 54.[1] In contrast, the consolidation process described at page 20 onwards relates to the process of examining the Types and Subtypes of the nomTokens to combine them, ultimately leading to a single nomToken whose connection table corresponds to the structure of the chemical name.[2] Unlike the concatenation process at page 18, the consolidation process is not specific to adjacent nomTokens. For the foregoing reasons, Applicant submits that the consolidation step of page 20 onwards is addressed by the amended claims. Moreover,

[1] See p. 19, lines 13-18, after the discussion of concatenation, "At the conclusion of the fragmentation process.... The fragmentation process has focused primarily on information contained in the text itself ..., not on the chemical significance of the resulting nomTokens."
[2] See the introduction of this section at p. 19, lines 19-20, "A consolidation process derives, from a list of nomTokens, a smaller list that contains fewer nomTokens."

because the concatenating step of page 18 is an additional optional step, which is not part of the consolidation step, it is not necessary to add this limitation to the claims.

With these amendments, Applicant submits that the claims are fully supported by the specification and the originally filed claims. Accordingly, Applicant requests that this rejection be withdrawn.

## IV. Rejection of Claims Under 35 U.S.C. 112 – Enablement

Claims 51-72 stand rejected under 35 U.S.C. 112 as allegedly being non-enabled. Applicant disagrees.

The Office Action requests Applicant to explain how the method would derive the chemical structure for "Phenacyl bromide, p-naphthoxy" in the absence of preprocessing. As amended, all claims include a step of preprocessing, rendering this request moot. Accordingly, Applicant respectfully requests that this request be withdrawn.

The Office Action also requests Applicant to explain how the method would derive the chemical structure for "pentane" that has been broken into the text strings "penta," "n" and "e". As amended, all claims require that the name be divided into a series of meaningful fragments. Because the text strings "n" and "e" are not meaningful, "pentane" would not be not divided as the Office Action requests (see Application at page 13, lines 16-19). Accordingly, Applicant respectfully requests that this request be withdrawn.

The Office Action states that the specification does not provide sufficient guidance or information to extrapolate to other environments and determinations of compatibility or lack thereof. Applicant respectfully disagrees. However, in an effort to expedite prosecution, Applicant has amended the claims to remove references to environments and has described these steps of the invention descriptively. These amendments are fully supported by pages 19 to 24 of the application as filed. In reviewing the specification, a person of skill in the art would understand that the consolidation process proceeds by identifying nomTokens of a particular type and then, once identified, determines if nearby nomTokens are compatible. As demonstrated in the

specification, compatibility is determined by ascertaining whether the nomTokens obey the rules of chemical nomenclature relevant to the first nomToken's Type. For example, the chemical nomenclature of crown ethers is "numeral-crown-numeral." To identify such structures, a nomToken of Type Crown much be preceded and followed by nomTokens for numerals (Type Unknown in the example of the application). If these conditions are met, the nomTokens are compatible, and are then consolidated to build a crown ether structure. The specification further explains how the methods of the invention determine chains of atoms – the prefix nomToken denotes the chain length, while a separate nomToken denotes the type of atom. The specification provides further guidance regarding the environments. For example, at pages 22-23, an example for cyclic and fused systems is given. At page 23, the specification provides an overview of the consolidation process: root or core structures are identified, then nomTokens that modify the root portions are identified and finally large groups are joined. With this guidance, as well as the examples provided, a skilled artisan would understand that compatibility of nomToken Types and Subtypes is determined by the rules of chemical nomenclature. Accordingly, Applicant submits that the determination of compatibility is well-within the knowledge of the skilled artisan. By way of analogy, given the word fragment "ed," a person of skill in the art of English grammar would understand that this fragment is compatible with a verb, such as "walk" or "talk". Furthermore, such a person would understand that the "ed" fragment must immediately follow these root verbs to form their past tense (i.e., "walked" and "talked"). Similarly, through knowledge of the art of chemical nomenclature, the skilled artisan would understand that certain combinations are compatible while others are not. Therefore, the term "compatible" in the claims is appropriate for this step of the process and is supported by the specification.

With these amendments, Applicant submits that the claims are fully supported by the specification and allow one of skill in the art to practice the invention without undue experimentation.

The Office Action maintains that there is no disclosure of the metes and bounds of the "locant map", "attach-in map", and "attach-out map", nor is there guidance on how to make or use them. Applicant disagrees and refers to the arguments made in the last

Response, dated January 11, 2005. However, in an effort to expedite prosecution, Applicant has amended the claims to further specify these terms in the claims. Specifically with regard to "attach-in map" and "attach-out map," Applicant submits that a person of ordinary skill in the context of this patent would understand that these terms refer to maps that identify the location of attachment for the structure that corresponds to a nomToken. For example, the attach-in map identifies the location on the structure that accepts attachment from another structure. Similarly, the attach-out map identifies the location on the structure that attaches to another structure. Moreover, a person of skill in the art would understand that these data objects are defined by the chemical substructures that correspond to the nomToken, which are also understood by those of skill in the art. For example, the attach-out map of the nomToken "propyl" indicates that the three-carbon group attaches at the end carbon, while the attach-out map of the nomToken "isopropyl" indicates that the group attaches at the middle carbon. Applicant submits that, with these amendments, the claims provide sufficient specificity to allow a person of skill in the art to practice the invention without undue experimentation.

## V. Conclusion

In view of the foregoing remarks, Applicant submits that all pending claims are in condition for allowance, which action is earnestly solicited.

Applicant respectfully requests an early and favorable reconsideration and issuance of this application as amended herein. The Examiner is encouraged to contact the undersigned to expedite prosecution of this application.

Applicants include a petition for a one-month extension of time to extend the period for response up to and including August 22, 2005. An authorization to charge the associated fee of $120.00 to our Deposit Account No. 08-0219 accompanies this response.

No other fees are believed to be due in connection with this submission. However, if any fees are due in connection with this application, please charge them to our Deposit Account No. 08-0219.

Respectfully submitted,

Date: August 18, 2005

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